WHAT IS CLAIMED IS:

1. A method of controlling the activation of occupant restraints in a motor vehicle for a high g event, said method comprising:

    (a) event, activating an automatic locking restraint of a seat belt;

    (b) then activating a pre-tensioner of said seat belt; and

    (c) then activating an air bag.

2. The method of claim 1, further comprising enabling one or more of the group consisting of said automatic locking restraint, said pre-tensioner and said air bag prior to the occurrence of said event.

3. The method of claim 1, wherein one or more of the group consisting of said automatic locking restraint, said pre-tensioner and said air bag is activated after the occurrence of said event.

4. The method of claim 1, wherein one or more of the group consisting of said automatic locking restraint, said pre-tensioner and said air bag is activated prior to the occurrence of said event.

5. The method of claim 2, wherein said automatic locking restraint is activated prior to the occurrence of said event and said air bag is activated after the occurrence of the event.

26

6.   The method of claim 1, wherein said automatic locking restraint is activated about 5 milliseconds after the occurrence of said event and said pre-tensioner is activated about 0 to 5 milliseconds after the occurrence of said event.

7.   The method of claim 6, wherein said air bag is activated at a time in the range of about 5 to 10 milliseconds.

8.   A method of managing the enablement and disablement of occupant restraints in a motor vehicle, said method comprising:

(a) determining if a seat belt of a seat is buckled; and

(b) in response to the determination of step (a), enabling and/or disabling at least one occupant restraint of the group that consists of automatic locking restraint, pre-tensioner and air bag.

9.   The method of claim 8, further comprising:

(c) determining if a weight in said seat is less than a threshold weight.

10.   The method of claim 9, further comprising:

(d) if step (a) determines that the seat belt is buckled and if step (c) determines that said weight in said seat is less than the threshold weight, disabling said air bag and enabling said automatic locking restraint and said pre-tensioner.

11. The method of claim 9, further comprising:

(e) if step (a) determines that the seat belt is unbuckled and if step (c) determines that said weight in said seat is less than the threshold weight, disabling said air bag and said pre-tensioner.

12. The method of claim 9, further comprising:

(f) if step (a) determines that the seat belt is unbuckled and if step (c) determines that said weight in said seat is equal to or greater than the threshold weight, enabling said air bag and disabling said pre-tensioner.

13. The method of claim 9, further comprising:

(g) if step (a) determines that the seat belt is buckled and step (c) determines that said weight in said seat is equal to or greater than said threshold, performing a procedure that enables the air bag, the automatic locking restraint and the pre-tensioner.

14. The method of claim 13, further comprising:

(h) if step (a) determines that the seat belt is buckled and step (c) determines that said weight in said seat is equal to or greater than said threshold, determining if the seat belt is extended and, if not, performing step (g); and

(i) if step (h) determines that the seat belt is extended, disabling said air bag and enabling said automatic locking restraint and said pre-tensioner.

15. The method of claim 9, further comprising:

(j) if step (a) determines that the seat belt is buckled and step (c) determines that said weight in said seat is less than said threshold, enabling said air bag to inflate with a procedure that provides a soft inflation impact on said occupant.

16. The method of claim 15, wherein step (j) also enables said automatic locking restraint and said pre-tensioner.

17. The method of claim 16, further comprising signaling an alert if step (j) is performed.

18. The method of claim 8, further comprising:

(k) determining a weight in said seat as measured by a weight sensor system;

(l) if said weight is greater than a threshold weight, determining if said seat belt is tightened;

(m) if step (l) determines that said seat belt is tightened, determining an adjusted weight; and

wherein step (b) enables said at least one occupant restraint dependent on a comparison of said adjusted weight and said threshold weight.

19. The method of claim 18, further comprising:

(n) if said adjusted weight is less than said threshold weight, disabling said air bag and enabling said automatic locking restraint and said pre-tensioner.

20. The method of claim 19, further comprising:

(o) if said adjusted weight is equal to or greater than said threshold weight, enabling said air bag, said automatic locking restraint and said pre-tensioner.

21. The method of claim 18, wherein step (l) determines seat belt tightening by comparing values measured by said sensor system at about the rear right and rear left of said seat.

22.   The method of claim 21, wherein step (m) derives said adjusted weight from said values.

23.   The method of claim 22, wherein step (m) determines said adjusted weight only if the difference between said values is greater than a predetermined amount.

24.   The method of claim 18, wherein steps (l) and (m) are repeated until a predetermined time has expired from the time the seat has been buckled.

25.   The method of claim 13, further comprising:

(p) if step (a) determines that the seat belt is buckled and step (c) determines that said weight in said seat is equal to or greater than said threshold, determining if the seat belt is extended and, if not, performing step (d); and

(q) if step (p) determines that the seat belt is extended, enabling a manual automatic restraint.

26.   The method of claim 25, further comprising:

(r) enabling said air bag with an inflation procedure that provides a soft inflation impact on said occupant.

31

27.   A method of managing the enablement and disablement of occupant restraints in a motor vehicle, said method comprising:

(a) determining a weight in a seat of said motor vehicle from measurements obtained by a weight sensor system;

(b) determining if a seat belt of said seat is tightened by comparing values obtained by said weight sensor system at about the rear right and rear left of said seat;

(c) if step (b) determines that the seat belt is tightened, deriving an adjusted weight; and

(d) if said adjusted weight is less than a threshold weight, disabling an air bag.

28.   The method of claim 27, wherein step (d) also enables an automatic locking restraint and a pre-tensioner of said seat belt.

29.   The method of claim 27, wherein step (b) derives a difference from said values, and wherein step (c) derives said adjusted weight by using said difference.

30. A system for managing the enablement and disablement of occupant restraints on an occupant in a seat having a seat belt in a motor vehicle, said system comprising:

a plurality of occupant restraints selected from the group consisting of automatic locking restraint, pre-tensioner and air bag device;

a processor, a memory and a bus that interconnects said processor, said memory and said plurality of occupant restraints;

a load management procedure stored in said memory that controls said processor to perform the following steps:

(a) determining if said seat belt is buckled; and

(b) in response to the determination of step (a), enabling and/or disabling at least one of said occupant restraints.

31. The system of claim 30, said load management procedure further comprising:

(c) determining if a weight in said seat is less than a threshold weight.

32. The system of claim 31, said load management procedure further comprising:

33

(d) if step (a) determines that the seat belt is buckled and if step (c) determines that said weight in said seat is less than the threshold weight, disabling said air bag and enabling said automatic locking restraint and said pre-tensioner.

33.   The system of claim 31, said load management procedure further comprising:

(d) if step (a) determines that the seat belt is unbuckled and if step (c) determines that said weight in said seat is less than the threshold weight, disabling said air bag and said pre-tensioner.

34.   The system of claim 33, said load management procedure further comprising:

(f) if step (a) determines that the seat belt is unbuckled and if step (c) determines that said weight in said seat is equal to or greater than the threshold weight, enabling said air bag and disabling said pre-tensioner.

35.   The system of claim 31, said load management procedure further comprising:

(g) if step (a) determines that the seat belt is buckled and step (c) determines that said weight in said seat is equal to or greater than said

threshold, performing a procedure that enables the air bag, the automatic locking restraint and the pre-tensioner.

36.   The system of claim 35, said load management procedure further comprising:

(h) if step (a) determines that the seat belt is buckled and step (c) determines that said weight in said seat is equal to or greater than said threshold, determining if the seat belt is extended and, if not, performing step (g); and

(i) if step (h) determines that the seat belt is extended, disabling said air bag and enabling said automatic locking restraint and said pre-tensioner.

37.   The system of claim 31, said load management procedure further comprising:

(j) if step (a) determines that the seat belt is buckled and step (c) determines that said weight in said seat is less than said threshold, enabling said air bag to inflate with a procedure that provides a soft inflation impact on said occupant.

38.   The system of claim 37, wherein step (j) also enables said automatic locking restraint and said pre-tensioner.

35

39.   The system of claim 38, said load management procedure further comprising signaling an alert if step (j) is performed.

40.   The system of claim 30, said load management procedure further comprising:

(k) determining a weight in said seat as measured by a weight sensor system;

(l) if said weight is greater than a threshold weight, determining if said seat belt is tightened;

(m) if step (l) determines that said seat belt is tightened, determining an adjusted weight; and

wherein step (b) enables said at least one occupant restraint dependent on a comparison of said adjusted weight and said threshold weight.

41.   The system of claim 40, said load management procedure further comprising:

(n) if said adjusted weight is less than said threshold weight, disabling said air bag and enabling said automatic locking restraint and said pre-tensioner.

36

42.   The system of claim 41, said load management procedure further comprising:

(o) if said adjusted weight is equal to or greater than said threshold weight, enabling said air bag, said automatic locking restraint and said pre-tensioner.

43.   The system of claim 40, wherein step (l) determines seat belt tightening by comparing values measured by said sensor system at about the rear right and rear left of said seat.

44.   The system of claim 43, wherein step (m) derives said adjusted weight from said values.

45.   The system of claim 44, wherein step (m) determines said adjusted weight only if the difference between said values is greater than a predetermined amount.

46.   The system of claim 40, wherein steps (l) and (m) are repeated until a predetermined time has expired from the time the seat has been buckled.

47.   The system of claim 35, said load management procedure further comprising:

(p) if step (a) determines that the seat belt is buckled and step (c) determines that said weight in said seat is equal to or greater than said

37

threshold, determining if the seat belt is extended and, if not, performing step (g); and

(q) if step (p) determines that the seat belt is extended, enabling a manual automatic locking restraint.

48. The system of claim 47, said load management procedure further comprising:

(r) enabling said air bag with an inflation procedure that provides a soft inflation impact on said occupant.

49. A system for managing the enablement and disablement of an air bag device that is inflatable on an occupant in a seat having a seat belt in a motor vehicle, said system comprising:

a weight sensor system that senses weight in said seat;

a processor, a memory and a bus that interconnects said processor, said memory, said weight sensor system and said air bag device;

a load management procedure stored in said memory that controls said processor to perform the following steps:

(a) determining a weight in said seat of said motor vehicle from measurements obtained by a weight sensor system;

(b) determining if said seat belt is tightened by comparing values obtained by said weight sensor system at about the rear right and rear left of said seat;

(c) if step (b) determines that the seat belt is tightened, deriving an adjusted weight; and

(d) if said adjusted weight is less than a threshold weight, disabling said air bag.

50.   The system of claim 49, wherein step (d) also enables an automatic locking restraint and a pre-tensioner of said seat belt.

51.   The system of claim 49, wherein step (b) derives a difference from said values, and wherein step (c) derive said adjusted weight by using said difference.

52.   A memory medium for controlling a processor that controls the enablement and disablement of occupant restraints in motor vehicle, said memory medium comprising:

means for controlling said processor to determine if a seat belt of a seat is buckled; and

means for controlling said processor in response to the determination of whether said seat belt is buckled, to enable and/or disable at least one occupant restraint of the group that consists of automatic locking restraint, pre-tensioner and air bag.

53.   The memory medium of claim 52, further comprising:

means for controlling said processor to determine a weight in said seat as measured by a weight sensor system;

means for controlling said processor if said weight is greater than a threshold weight, to determine if said seat belt is tightened;

means for controlling said processor if said seat belt is tightened, to determine an adjusted weight; and

wherein step said at least one occupant restraint is enabled dependent on a comparison of said adjusted weight and said threshold weight.

54.   A memory medium for controlling a processor that manages the enablement and disablement of occupant restraints in a motor vehicle, said memory medium comprising:

means for controlling said processor to determine a weight in a seat of said motor vehicle from measurements obtained by a weight sensor system;

means for controlling said processor to determine if a seat belt of said seat is tightened by comparing values obtained by said weight sensor system at about the rear right and rear left of said seat;

means for controlling said processor if it is determined that the seat belt is tightened, to derive an adjusted weight; and

means for controlling said processor if said adjusted weight is less than a threshold weight, to disable an air bag.

55.   A memory medium for controlling a processor that controls the activation of occupant restraints in a motor vehicle in response to a high g event, said memory medium comprising:

means for controlling said processor in response to said event to activate an automatic locking restraint of a seat belt;

means for controlling said processor to then activate a pre-tensioner of said seat belt; and

means for controlling said processor to then activate an air bag.

56.   The method of claim 9, further comprising:

(s) adjusting a normalized occupant weight based on the weight in said seat.

57.   The method of claim 8, further comprising:

(t) if step (a) determines that said seat belt is buckled, detecting if said seat is unoccupied; and

(u) if said seat is unoccupied, recording the unoccupied status of said seat.

58.   The method of claim 57, further comprising:

(v) if a weight in said seat is less than a threshold weight, disabling said air bag and said pre-tensioner.

59.   The method of claim 57, further comprising:

(w) if a weight in said seat is equal to or greater than a threshold weight, enabling said air bag and disabling said pre-tensioner.

60.   A method of managing the enablement and disablement of occupant restraints in a motor vehicle, said method comprising:

42

(a) determining if a seat belt of a seat is buckled;

(b) determining if said seat is unoccupied; and

(c) if said seat belt is buckled and said seat is unoccupied, recording an unoccupied status of said seat.

61. The method of claim 60, further comprising:

(d) enabling or disabling at least one occupant restraint.